



# Launch Mission Execution Forecast

**Mission:** Falcon 9 NASA Crew-2

**Issued:** 20 April 2021 / 0630L (1030Z)

**Valid:** 22 April 2021 / 0607-0617L (10007-1017Z)



**Forecast Discussion:** Rain showers and isolated thunderstorms are likely again today as the boundary remains stalled across Central Florida. On Wednesday, high pressure will build in and push the unsettled weather south through the day. By Thursday morning, the high pressure will be centered near Arkansas, creating gusty northerly winds along the Space Coast due to the pressure gradient between the high and the departing boundary. The primary weather concern Thursday morning will be these gusty Liftoff Winds associated with this strong pressure gradient.

By Friday morning, the high center will move over the Carolinas, allowing winds to diminish and turn easterly over the Spaceport. The primary launch weather concern for a Friday morning attempt will be Flight Through Precipitation with very isolated, low-topped coastal showers associated with the onshore flow.

| Launch Day   | Probability of Violating Weather Constraints |  |               |           |           |                          |                           |          |
|--|--|--|---------------|-----------|-----------|--------------------------|---------------------------|----------|
|  | 20%  | Primary Concerns: Liftoff Winds                |               |           |           |                          |                           |          |
|  | Weather Conditions                           |  |               |           |           | Additional Risk Criteria |                           |          |
|  | Weather/Visibility:                          | None / 7 mi.                                   | Type          | Coverage  | Base (ft) | Tops (ft)                | Upper-Level Wind Shear:   | Moderate |
|  | Temp/Humidity:                               | 68°F / 72%                                     | Stratocumulus | Few       | 2,500     | 5,000                    | Booster Recovery Weather: | Moderate |
|  | Liftoff Winds (200'):                        | 020° 17-22 mph                                 | Cirrostratus  | Few       | 28,000    | 30,000                   | Solar Activity:           | Low      |
| 24-Hour Delay  | Probability of Violating Weather Constraints |  |               |           |           |                          |                           |          |
|  | 10%  | Primary Concerns: Flight Through Precipitation |               |           |           |                          |                           |          |
|  | Weather Conditions                           |  |               |           |           | Additional Risk Criteria |                           |          |
|  | Weather/Visibility:                          | None / 7 mi.                                   | Type          | Coverage  | Base (ft) | Tops (ft)                | Upper-Level Wind Shear:   | Low      |
|  | Temp/Humidity:                               | 70°F / 78%                                     | Cumulus       | Scattered | 3,000     | 7,000                    | Booster Recovery Weather: | Low      |
|  | Liftoff Winds (200'):                        | 080° 12-17 mph                                 |               |           |           |                          | Solar Activity:           | Low      |
| <b>Note:</b> The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity. |  |  |               |           |           |                          |                           |          |
| Next Forecast Will Be Issued   |  | 21 April 2021                                  |               |           |           |                          |                           |          |